

which the more or less sinuous or zigzag ribs form with their interspaces laterally alternating, very similar and equal, angulate elevations and depressions over the sides of the egg; in the other the elevations are more abrupt and rounded and are separated from each other by nearly flat interspaces. The latter type is represented by aello, and, to judge from advance copies of one of his next plates Mr. Edwards has kindly shown me, to a more marked degree by one of the species whose transformations are yet unpublished; the other type includes semidea, jutta, ivalda, iduna, chryxus, and macounii. Second, there are two types of structure in the caterpillars just from the egg, but these two types in no way correspond with those found in the egg. In one, the terminal segment has the two posterior forks produced to more or less blunt points and the notch between them is deep; in the other, these forks are rather broadly truncate and the notch between them slight. To the latter belongs only *Oe. semidea*; to the former, jutta, ivalda, chryxus, macounii, and aello, as well as the unpublished form referred to.

The chrysalids, as might be expected with concealed objects, show little difference, but in the imago a wide diversity exists, especially in the form of the wings and their markings and in the presence or absence of a discal streak upon the upper surface of the fore wings of the male. But it would appear that any division upon these grounds would more or less cut athwart the groups derived from the egg or the juvenile larva, unless it be that the more rounded and less pointed fore wing combined with a lack of ocelli and of sexual adornment and the possession of more densely and profusely haired mid and hind femora in the imago is correlated with the truncate tips of the forks of the last segment in the juvenile larva; in which case the first larval stage of bore and brucei as well as of oeno should, like semidea, show a truncate extremity. Sandberg has described (but insufficiently) the young larva of bore,

and Edwards has raised but not published brucei, so that we shall doubtless soon be able to know whether this is true; if so, it might be well to divide the genus into two groups, to which the subgeneric names of Oeneis and Chionobas might then be given, the former to the latter group, the latter to that of which *Oe. semidea* would be typical.

NOTES.—The second and somewhat tardy part of *Lowne's anatomy etc. of the blow fly* (London, Porter) is even more extended than the first, containing 116 pages and 6 plates besides 17 figures in the text, all the illustrations being very coarse but instructive wood cuts. The part is entirely devoted to the "integumental skeleton of the imago" and is so detailed and so full of comparisons that it almost serves the purpose of a general treatise on entomology. Half a dozen topical bibliographies scattered through the work will be found very useful.

The death is reported of *M. Jules Künckel d'Herculais*, formerly president of the French entomological society, while carrying on official researches upon the destructive locusts of Algeria. The sensational reports of the press that he was overcome and devoured by locusts is in no way to be credited. The probable truth is that he was overcome by the heat of the desert and died before his body was found, the locusts devouring a portion of his clothing. His superb quarto volume, still incomplete, upon the genus *Volucella*, with its 26 exquisite plates, is practically a treatise on the anatomy of the Diptera and will remain a monument to his technical skill as anatomist and delineator.

Concerning the distribution of *Vanessa cardui*, Mr. Charles Oberthür, in commenting at the April meeting of the French entomological society on Scudder's doubt (Butt. N. E., 478) whether the species is indigenous in French Guiana and in Tahiti, says that as Boisduval neglected to attach any labels to his exotic specimens of this species (excepting one from Madagascar) it is impossible to

say whether his collection, now owned by Oberthür, contains any specimen from either country; but he possesses specimens from French Guiana collected by Constant Bar at Isle Portal on the Maroni, the river which separates French and Dutch Guiana. He gives a list of other localities from which he possesses specimens, but none of them are of special importance.

## PROCEEDINGS OF SOCIETIES.

### CAMBRIDGE ENTOMOLOGICAL CLUB.

8 MARCH 1889.—The 144th meeting was held at 156 Brattle St., the president in the chair.

Dr. H. A. Hagen said that the cyclamens in a greenhouse in Montvale, Mass., had been injured by *Otiorynchus sulcatus*, and remarked on the history of our knowledge of its depredations in America.

Mr. S. Henshaw stated that it had recently been introduced into New Zealand where it is also doing much damage.

Mr. H. Hinkley showed a variety of *Saturnia io* in which the eye-spot on the hind wing is almond-shaped. He has raised a large number and showed a fairly large series which exhibited some very pretty gradations of color.

Mr. S. H. Scudder remarked on the former range of distribution of *Pieris oleracea*. He gave as a reason why *P. rapae* has exterminated *P. oleracea* that the first brood of the former hatches about two weeks earlier than that of the latter species.

Mr. Scudder then read a paper on cosmopolitan butterflies.

Dr. H. A. Hagen remarked briefly on the distribution of certain dragon-flies in Brazil, showing that many are extremely local.

Mr. J. H. Emerton showed drawings of the copulatory organs of *Agalena naevia*. The palpal organs are, with few exceptions, of three varieties, the most common variety having a stout spiral tube of one and a half

turns with the tip turned outward. Another variety found only in large individuals has the tube longer and more slender, and a third variety found in spiders of various sizes, has the tube very short and coiled in a small spiral. The epigynum is of two principal forms; one with a simple opening, and the other, usually occurring in large spiders, with a wide opening partly divided into two by a process from the front edge; between these are many intermediate forms. The other parts of the male palpi vary but little and there are no other variations which would show that we have more than one species of these spiders.

Mr. Emerton stated that he had found a new species of spider in the natural history society building in Boston. There were two specimens, one male and one female. They may be foreign as they were found near some West Indian material that had been there for about two years.

[The records of several meetings at this point have been lost.]

11 October, 1889.—The 148th meeting of the Club was held at 156 Brattle St., the president in the chair.

The secretary stated that the records of the last meeting had been mislaid.

Mr. S. H. Scudder gave an account of what had been done at the meeting of the Executive Committee, and showed the circular which was sent soliciting subscriptions to *Psyche*.

Mr. Scudder then gave a brief account of his field work in the west during the past summer for the U. S. Geological Survey. Having first visited Florissant in order to make sure of bringing home a sufficient number of fossil insects to warrant the outlay of the expedition, he next went to western Colorado to examine two localities near together. One of them on the summit of the Roan Mountains, on the divide between the White and Grand Rivers, where fossil plants of species identical with those found at Florissant had been obtained many years ago,